

AN IRISH MIDDLE BRONZE AGE SPEARHEAD IN THE QUEENSLAND
MUSEUM, BRISBANE

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Amongst the small quantity of Old World antiquities in the Queensland Museum, is a cast bronze spearhead, registered H42 (previously A4164), length 18.6 cm, here illustrated in Plate 31; its provenance is recorded simply as Ireland and in the museum register it is described as a 'Roman spearhead'. The spear, the gift of a Mrs O'Doherty, is registered as having been donated on 16 January 1884; no further details are known as to the circumstances of its discovery. The angular or 'kite-shaped' blade and the twin flattened loops, lozenge shaped in plan and placed low down on the tubular socket, probably decorative rather than functional, in fact readily identify this spearhead as a type commonly assigned to the earlier part of the Middle Bronze Age in Ireland where some 400 examples are known (Mitchell, O'Leary and Raftery, 1941, pp. 288–92 esp. fig. 1; Eogan, 1962, pp. 45–6; 1964, pp. 268–9). These spears were cast in two-piece moulds as can be seen from the partially cleaned down flashing or casting seams still visible either side of the socket of the Queensland Museum spearhead. A scattering of kite-shaped spearheads—which have a number of variants marked mainly by the nature, presence or absence, of the central raised ribs on the blade and socket—extends the distribution to Scotland (Coles, 1963–64, pp. 104–56) and Southern England (Smith, 1959, pp. 179–80).

First classified by Greenwell and Brewis (1909, p. 459) as Class III of their typology of British Bronze Age spearheads, these are Class C of Coles's more refined scheme and Group I of Britton's recent typological and technological study of examples in the Pitt-Rivers Museum, Oxford (Allen, Britton and Coghlan, 1970, p. 156). Precise dating of kite-shaped spearheads is not easy since, despite their usual ascription to the Middle Bronze Age (on conventional dating, from 1400 B.C.), the few associated finds contain only Late Bronze Age material (dated to after 900 B.C.). A number of two-piece stone moulds used in the production of Group I spearheads—all from Ireland—have also been used for casting typical and well-dated Middle Bronze Age objects such as dirks and rapiers. Some additional support for the presumed early date of many Group I spearheads is given by their morphological relationship to Early Bronze Age tanged forms.

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A number of spears similar to the Brisbane example have been subjected to metallurgical analysis (Brown and Blin-Stoyle, 1959a, b; Allen, Britton and Coghlan, 1970, nos. 73-8). Of these a selection from spearheads of Irish provenance may be compared with the results of chemical and spectrographic analysis by the atomic absorption method obtained, as on previous occasions, through the good offices of the Commonwealth Defence Standards Laboratory (Megaw, 1969).

It will be seen from a comparison of the analysis of the Brisbane spearhead with others cited in Table I that it shares with them the characteristic features of a typical tin-bronze alloy with few significant trace elements which may include arsenic, arsenical copper being much in use for the manufacture of early Irish bronzes (Coghlan and Case, 1957, pp. 98-9). Low antimony and bismuth is a key feature of many Middle Bronze Age

TABLE I
CHEMICAL AND SPECTROGRAPHIC ANALYSES OF IRISH GROUP I SPEARHEADS

Specimen	Cu%	Sn%	Pb%	As%	Sb%	Ag%	Ni%	Bi%	Fe%	Hardness*
Queensland Museum H42	85.8	12.3	0.002	n.d.	n.d.	0.02-0.05	n.d.	n.d.	0.2	ca.100
ABC no. 73 BBS no. 356	86.3	5.268	<0.02	n.d.	<0.05	0.029	<0.01	<0.005	0.0069	85.3
ABC no. 75 BBS no. 351	92.0	7.6	<0.02	n.d.	n.d.	0.34	n.d.	<0.005	0.046	68-104
ABC no. 76 BBS no. 349	88.0	10.60	0.04	0.74	<0.05	0.31	0.18	<0.005	0.012	
BBS no. 54	87.7	10.4	0.73	0.71	<0.05	0.046	0.29	<0.005	0.011	
BBS no. 55	89.0	10.5	0.04	0.24	n.d.	0.005	0.069	<0.005	0.0082	
BBS no. 60	88.2	10.0	0.97	0.58	<0.05	0.027	0.20	<0.005	0.0088	
BBS no. 61	86.8	13.0	0.03	n.d.	n.d.	0.016	0.013	<0.005	0.043	
BBS no. 62	82.5	17.3	<0.02	n.d.	<0.05	0.036	<0.01	<0.005	<0.006	
BBS no. 93	86.1	12.0	0.68	0.89	<0.05	0.040	0.33	<0.005	0.040	
BBS no. 94	83.8	15.1	1.13	0.82	<0.05	0.036	0.31	<0.005	0.010	
BBS no. 95	91.0	8.9	<0.02	n.d.	<0.05	<0.005	0.014	<0.005	<0.006	
BBS no. 348	85.6	14.1	<0.02	n.d.	n.d.	0.21	n.d.	<0.005	0.064	

ABC = Allen, Britton and Coghlan, 1970; BBS = Brown and Blin-Stoyle, 1959a, b; n.d. = not detected.

* For specimen H42 hardness is expressed on the Vickers scale, for all other specimens in equivalent Brinell Units.

pieces. The hardness figures are consistent with general evidence for some considerable degree of cold work hardening of at least the cutting edges.* As however has been recently observed (Allen, Britton and Coghlan, 1970, pp. 21–2), the average standard of metal represented by these and similar spearheads is not as high as that obtained in the production of other simpler to cast objects of Middle Bronze Age date.

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* Owing to the thickness of the surface oxides on the Queensland Museum spearhead the hardness reading was taken on the butt.